Model 27a

DESCRIPTIVE MODEL OF HOT-SPRING Hg

By James J. Rytuba

APPROXIMATE SYNONYM Sulphur Bank type of White (1981) or sulfurous type of Bailey and Phoenix (1944).

DESCRIPTION Cinnabar and pyrite disseminated in siliceous sinter superjacent to graywacke, shale, andesite, and basalt flows and diabase dikes.

GEOLOGICAL ENVIRONMENT

Rock Types Siliceous sinter, andesite-basalt flows, diabase dikes, andesitic tuffs, and tuff breccia.

Age Range Tertiary.

Depositional Environment Near paleo ground-water table in areas of fossil hot-spring system.

Tectonic Setting(s) Continental margin rifting associated with small volume mafic to intermediate volcanism.

Associated Deposit Types Hot-spring Au.

DEPOSIT DESCRIPTION

Mineralogy Cinnabar + native Hg + minor marcasite.

Texture/Structure Disseminated and coatings on fractures in hot-spring sinter,

Alteration Above paleo ground-water table, kaolinite-alunite-Fe oxides, native sulfur; below paleo ground-water table, pyrite, zeolies, potassium feldspar, chlorite and quartz. Opal deposited at the paleo water table.

Ore Controls Paleo ground-water table within hot-spring systems developed along high-angle faults.

Geochemical Signature Hg + As + Sb ± Au.

EXAMPLES

Sulfur bank, USCA (White and Roberson, 1962)

GRADE AND TONNAGE MODEL OF HOT-SPRING Hg

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COMMENTS See figs. 136, 137.

DEPOSITS

Name	Country	Name	Country
B and B	USNV	Idaho Almaden	USID
Baldwin	USNV	Mahattan	USCA
Bretz	USOR	McDermitt	USNV
Butte	USNV	Nevada Sulphur co.	USNV
Coleman	USNV	Opalite	USOR
Cordero	USNV	Rim Rock and Homestake	USNV
F and L Mine	USNV	Silver Cloud	USNV
Glass Butte	USOR	Steamboat Springs	USNV
Goldbanks	USNV	Sulphur Bank	USCA
Governor	USNV	Walibu	USCA

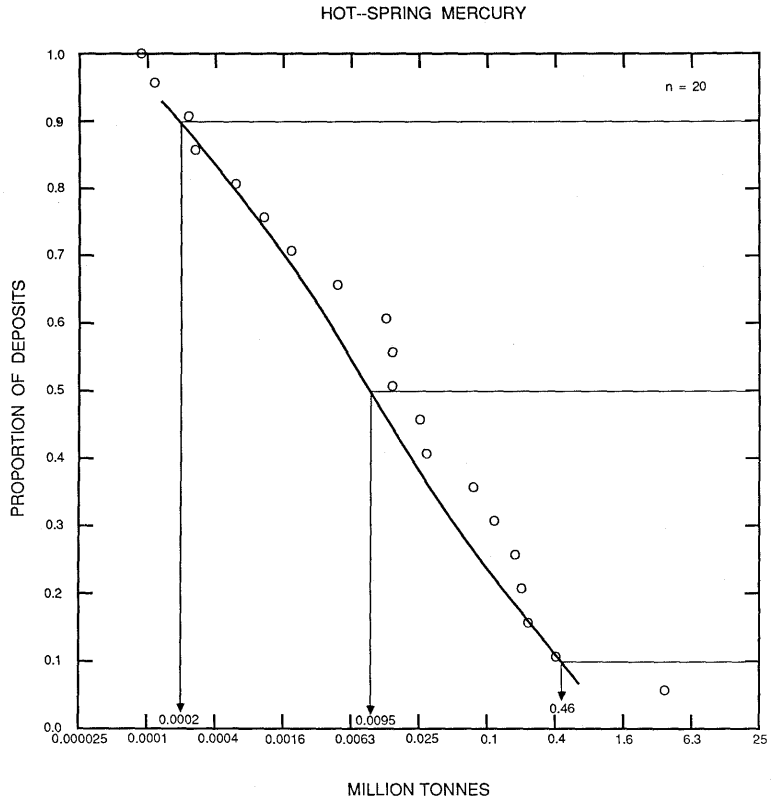

Figure 136. Tonnages of hot-spring Hg deposits.

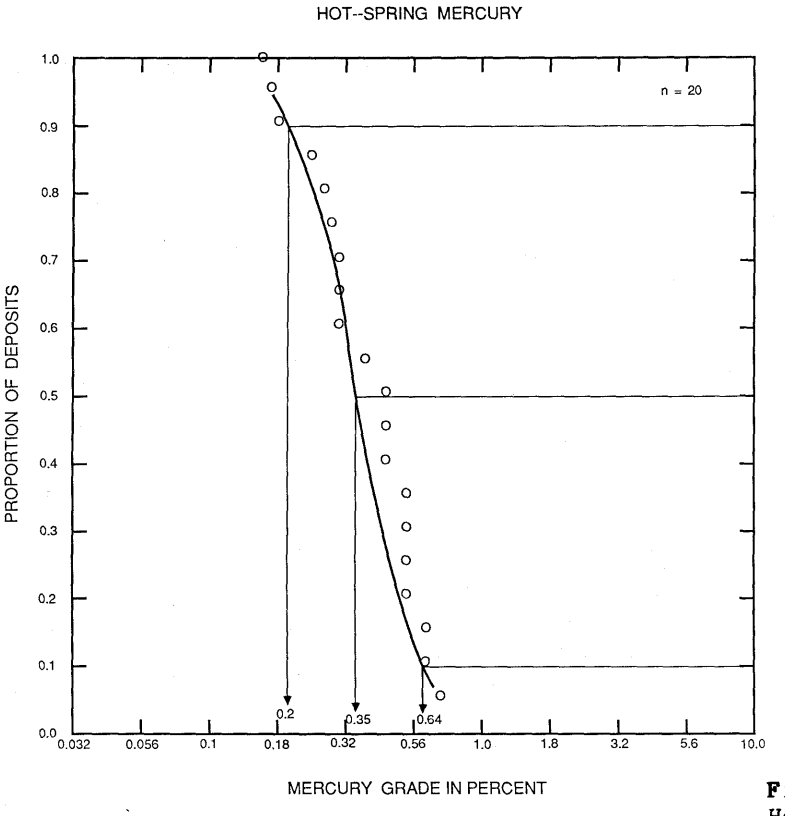

Figure 137. Mercury grades of hot-spring Hg deposits.